

FR 2 779 440



FR 2,779,440 A1

Translated from French by the Ralph McElroy Translation Company
910 West Avenue, Austin, Texas 78701 USA

Code: 1505-76187

FRENCH REPUBLIC
NATIONAL INSTITUTE OF INDUSTRIAL PROPERTY
PATENT NO. 2 779 440 A1

Int. Cl.⁶: C 08 L 83/06
C 08 J 3/075
A 61 K 7/02
7/00

Filing No.: 98 07105 -

Filing Date: June 5, 1998

Date of Public Access
to the Application: December 10, 1999, Bulletin 99/49

FLUID ANHYDROUS GEL WITH CROSSLINKED ORGANOPOLYSILOXANE BASE

Inventor: Isabelle Bara

Applicant: L'Oreal Société anonyme, France

Agent: L'Oreal

List of documents cited in the
preliminary search report: To be reported at the end of the
present section.

[Abstract]

The invention relates to an anhydrous composition consisting of at least one partially crosslinked elastomeric solid organopolysiloxane and at least one polydimethylsiloxane derivative with kinematic viscosity measured at a temperature of approximately 25°C at least equal to $300 \times 10^{-6} \text{ m}^2/\text{sec}$, this composition having a dynamic viscosity measured at a

temperature of approximately 25°C and with a shear rate of $200 > \text{sec}^{-1}$, at most equal to $100 \times 10^{-1} \text{ Pa}\cdot\text{sec}$. This composition can easily be applied on the skin and is particularly stable.

The present invention relates to an anhydrous composition especially makeup, containing a partially crosslinked elastomeric organopolysiloxane and a polydimethylsiloxane derivative. This composition is usable in cosmetic, dermatological, pharmaceutical and/or health-care fields.

The anhydrous gels with crosslinked elastomeric organosiloxane base as described in the document US-A 4 987 169 are known for being products designed to be applied to the skin, presenting good cosmetic qualities such as smoothness, matting and not being greasy to the touch.

Generally crosslinked organosiloxane is combined with oils or solvents of a hydrocarbon or silicone nature to obtain uniform gels. However, these gels are often presented in the form of powdery products or have a pasty consistency. Thus, the viscosity of these products at a temperature of 25°C is much higher than $100 \times 10^{-1} \text{ Pa}\cdot\text{sec}$.

And yet more and more one tries to obtain fluid products that upon application provide a sensation of freshness, that spread easily on the skin (for example for sun care products which in general must be applied over the entire body) and that may also be packaged for example in pump bottles for practical reasons.

For that, increase in the proportion of oil in the anhydrous gels by comparison with the proportion of crosslinked elastomeric organosiloxane has been sought. But then problems of instability and inhomogeneity have been encountered with the gel over time. In fact, the mixture settles after several days, even immediately after being formed and the composition, besides the fact that it then does not present a very esthetic appearance, also loses cosmetic efficacy.

Therefore, there remains the need for anhydrous fluid products that are not subject to the phenomenon of demixing over time and that possess good sensory qualities.

The invention has for a goal a composition, especially makeup, enabling the drawbacks of the gels of the prior art to be remedied. Surprisingly, the applicant has found that the use of a polydimethylsiloxane derivative with a specific kinematic viscosity enabled compositions with a crosslinked elastomeric organosiloxane base to be obtained that are stable while being fluid and while preserving good cosmetic properties, in particular the smoothness and nongreasy properties of standard pasty gels.

The invention applies not only to makeup products such as makeup foundations, eyeshadows, makeup products for the body, products for healthcare and/or treatment of the lips such as lipsticks or lip balms but also products for the care and treatment of human skin, of the face and/or human body and/or scalp.

More precisely, the invention has for a goal an anhydrous composition characterized in that it consists of at least one partially crosslinked elastomeric solid organopolysiloxane and at

least one polydimethylsiloxane derivative with kinematic viscosity measured at a temperature of approximately 25°C that is at least equal to $300 \times 10^{-6} \text{ m}^2/\text{sec}$, this composition having a dynamic viscosity at most equal to $100 \times 10^{-1} \text{ Pa}\cdot\text{sec}$ measured at a temperature of approximately 25°C and with a shear rate of 200 sec^{-1} .

All the measurements of dynamic viscosities given in the present application have been carried out at a temperature of approximately 25°C with shear rates of 200 sec^{-1} , on a Rheomat RM 180 with Ms-r3 or Ms-r4 mobiles.

This composition may be a cosmetic, dermatological, pharmaceutical and/or healthcare composition. It may be used as is or even be incorporated in a more complex composition.

The compositions according to the invention are particularly comfortable upon application, smooth and not sticky to the touch. They also present excellent stability over time as well as with variations in temperature. They are particularly easy to apply on the skin, even on large surfaces, especially on the body.

Thus, the compositions according to the invention perfectly meet the following stability standards:

- resistance in the centrifugation test at 4000 rpm for 1 h and/or
- resistance to aging at room temperature (25°C) for 2 months at room temperature (25°C) and at 45°C as well and/or
- resistance to 8 successive cycles of 8 h each in which temperatures range from -20°C to +20°C.

"Elastomeric" is understood to be a flexible, deformable material with viscoelastic properties and especially presenting the consistency of a sponge or a flexible sphere.

The elastomeric organopolysiloxanes of the composition according to the invention are in general partially or totally crosslinked and have a three-dimensional structure. Included in a fatty phase and according to the level of the fatty phase, they are transformed from a product with spongy appearance when they are used in the presence of low contents of fatty phase into a more or less homogeneous gel in the presence of high amounts of fatty phase. Gelling of the fatty phase by these elastomers may be total or partial.

The elastomers of the composition of the invention may be carried in the form of gel formed from an elastomeric organopolysiloxane with three-dimensional structure included in at least one hydrocarbon oil and/or one silicone oil.

The elastomeric organopolysiloxanes of the composition according to the invention may be chosen from the crosslinked polymers described in the application EP-A-0295886. According to this application, they are obtained by addition and crosslinking reaction in the presence of a platinum-type catalyst from at least:

- (a) one organopolysiloxane with at least two $\text{C}_1\text{-C}_6$ alkenyl groups per molecule; and

-(b) one organopolysiloxane with at least two hydrogen atoms bonded to one atom of silicon per molecule.

The elastomeric organopolysiloxanes of the composition according to the invention may also be chosen from those described in the patent US 5 266 321. According to this patent, they are especially chosen from:

- i) organopolysiloxanes consisting of R_2SiO and $RSiO_{1.5}$ groups and possibly $R_3SiO_{0.5}$ and/or SiO_2 groups in which the R radicals, independently of each other, represent hydrogen, an alkyl such as methyl, ethyl or propyl, an aryl such as phenyl or tolyl, an unsaturated aliphatic group such as vinyl, the weight ratio of the R_2SiO groups to the $RSiO_{1.5}$ groups ranging from 1/1 to 30/1.
- ii) organopolysiloxanes that are insoluble and swellable in a silicone oil, obtained by addition of an organohydrogenopolysiloxane (1) and an organopolysiloxane (2) with unsaturated aliphatic groups such that the quantity of hydrogen or unsaturated aliphatic groups in (1) and (2) respectively are between 1 and 20 mol% when the organopolysiloxane is acyclic and between 1 and 50 mol % when the organopolysiloxane is cyclic.

The organopolysiloxanes that are the object of the invention are for example those marketed under the names KSG6 from Shin-Etsu, Trefil E-505C or Trefil E-506C from Dow-Corning, Gransil from Grant Industries (SR-CYC, SR DMF10, SR-DC556) or those marketed in the form of previously formed gels (KSG15, KSG17, KSG16, KSG18 from Shin-Etsu, Gransil SR 5CYC gel, Gransil SR DMF 10 gel, Gransil SR DC 556 gel, SF 1204 and JK 113 from General Electric). A mixture of these commercial products may also be used.

Preferentially, the organopolysiloxane(s) is (are) present as active material at a concentration ranging from 0.1 to 80% by weight by comparison with the total weight of the composition and preferably from 0.5 to 20% and even more preferably, from 2% to 15%.

A second essential component of the compositions according to the invention is a polydimethylsiloxane derivative with kinematic viscosity measured at a temperature of approximately 25°C that is at least equal to $300 \times 10^{-6} \text{ m}^2/\text{sec}$. Even preferably, these polydimethylsiloxane derivatives have a kinematic viscosity at least equal to $1000 \times 10^{-6} \text{ m}^2/\text{sec}$ and even more preferably at least equal to $100,000 \times 10^{-6} \text{ m}^2/\text{sec}$. These polydimethylsiloxane derivatives may also be in the solid state; then they can be used solubilized or dispersed in a solvent such as for example a silicone oil with low kinematic viscosity.

These polydimethylsiloxane derivatives may be unsubstituted polydimethylsiloxanes or polydimethylsiloxanes substituted, for example, with one or several hydroxyl, alkyl (for example, ethyl, propyl or phenyl), alkoxy, ester and/or ether groups. The polydimethylsiloxane derivatives may possibly be substituted with one or several amino, sulfur, vinyl, [or] acrylic groups.

Preferably, the unsubstituted polydimethylsiloxanes in conformance with the invention have a degree of polymerization higher than or equal to 250 and a molecular weight higher than or equal to 18,500.

Preferably, polydimethylsiloxane derivatives are used in the compositions that are substituted with one or several hydroxyl groups and/or with one or several phenyl groups.

The following products may be mentioned as commercial products consisting of polydimethylsiloxanes that are particularly well suited for the invention:

- among the "pure" polydimethylsiloxanes: "Silicone SH-200" from Toray with viscosity $1000 \times 10^{-6} \text{ m}^2/\text{sec}$, "Silicone BY.11.007" from Toray with viscosity ranging from 2000 to $5000 \times 10^{-6} \text{ m}^2/\text{sec}$, "Silicone Viscasil 60 M" from General Electric; "Mirasil DM 500,000" from Rhodia-Chimie with viscosity of $500,000 \times 10^{-6} \text{ m}^2/\text{sec}$ and molecular weight of 250,000, "Mirasil DM 500" from Rhodia-Chimie, "AK 300,000" from Wacker with viscosity of $300,000 \times 10^{-6} \text{ m}^2/\text{sec}$, "AK 500,000" from Wacker, "DC 200 Fluid" from Dow Corning with viscosity of $60,000 \times 10^{-6} \text{ m}^2/\text{sec}$, "DC Fluid 200-350" from Dow Corning and viscosity of $300 \times 10^{-6} \text{ m}^2/\text{sec}$, "Mirasil DM 300" from Rhodia Chimie with viscosity of $300 \times 10^{-6} \text{ m}^2/\text{sec}$,
- among the polydimethylsiloxanes combined with silicone or hydrocarbon oils with low molecular weight: "DC 1402" from Dow Corning (polydimethylsiloxanes in cyclotetramethicone and cyclopentamethicone), "Sil MK 88" from Shin-Etsu (12% polydimethylsiloxane in C13-C16 isoparaffin oil), "Silicone CF 1241" from General Electric (33% polydimethylsiloxane with molecular weight of 500,000 and viscosity of $2,000,000 \times 10^{-6} \text{ m}^2/\text{sec}$ in a fluid polydimethylsiloxane with viscosity of $1000 \times 10^{-6} \text{ m}^2/\text{sec}$), "XF-49601" from Toshiba (15% polydimethylsiloxane with molecular weight of 2,000,000 in cyclopentamethicone),
- among the hydroxylated polydimethylsiloxanes: "DC 1403" from Dow Corning (12% α - ω hydroxylated polydimethylsiloxane with molecular weight of 1,770,000 in a fluid silicone with viscosity of $5 \times 10^{-6} \text{ m}^2/\text{sec}$), "DC 1401" from Dow Corning (12% α - ω hydroxylated polydimethylsiloxane with molecular weight of 1,770,000 in cyclopentamethicone), "DC 9071" from Dow Corning (15% hydroxylated polydimethylsiloxane with molecular weight of 1,770,000 in cyclopentamethicone), "Abil OSW.13" from Goldschmidt (13% hydroxylated polydimethylsiloxane in cyclotetramethicone and cyclopentamethicone), "DC 1503" from Dow Corning (15% hydroxylated polydimethylsiloxane in a silicone fluid with viscosity of $5 \times 10^{-6} \text{ m}^2/\text{sec}$)
- among the phenylated polydimethylsiloxanes: "Abil AV 1000" from Goldschmidt (polyphenylsiloxymethylsiloxane with viscosity of $1000 \times 10^{-6} \text{ m}^2/\text{sec}$), "Abil AV 350" from Goldschmidt (polyphenylsiloxymethylsiloxane with viscosity of $350 \times 10^{-6} \text{ m}^2/\text{sec}$), "Mirasil DPDM" from Rhodia-Chimie (polydiphenyldimethylsiloxane), "Belsil PDM 1000" from

Wacker (polydimethyltrimethylsiloxymethylsiloxane with molecular weight 9000 and viscosity of $1000 \times 10^{-6} \text{ m}^2/\text{sec}$).

-among the phenylated polydimethylsiloxanes combined with an oil: "Mirasil C.DPDM" from Rhodia-Chimie (15% polydiphenyldimethylsiloxane with molecular weight 600,000 and viscosity $1,000,000 \times 10^{-6} \text{ m}^2/\text{sec}$ in cyclopentamethicone).

In one preferred form of execution of the invention α - ω hydroxylated polydimethylsiloxane is used with molecular weight of 1,770,000, that is, it is substituted with at least one OH group at each of the ends of the silicone chain.

Preferentially, the derivative(s) of polydimethylsiloxane is (are) present as active material at a concentration ranging from 1 to 99.5% by weight by comparison with the total weight of the composition and preferably from 5% to 90%, and even more preferably from 7% to 80%.

The compositions according to the invention present a dynamic viscosity at most equal to $100 \times 10^{-1} \text{ Pa}\cdot\text{sec}$. They are fluid and spread easily on the skin. They are thus particularly adapted to application on the entire body.

The compositions according to the invention may contain in addition to the crosslinked organosiloxane and the polydimethylsiloxane derivative, oils and/or solvents.

Oils that are especially usable in the invention may be mentioned:

- plant hydrocarbon oils such as liquid triglycerides of fatty acids, triglycerides of caprylic/capric acids such as those sold by the Stearineries Dubois company or those sold under the trade names Miglyol 810, 812 and 818 by the Dynamit Nobel company or even wheat germ, corn, sunflower, shea, castor, sweet almond, macadamia, apricot, soya, cottonseed, alfalfa, poppyseed, vegetable marrow [*Cucurbita maxima*], sesame, squash, avocado, hazel nut, grapeseed or black currant seed, evening primrose, millet, barley, quinoa, olive, rye, safflower, candlenut, passionflower, [or] muscat rosebush oils; these plant oils have the characteristic of being liquid at a temperature equal to or lower than 25°C ;
- oils with the formula $\text{R}_9\text{COOR}_{10}$ in which R_9 represents the residue of a higher fatty acid including from 7 to 19 carbon atoms and R_{10} represents a branched hydrocarbon chain containing from 3 to 20 carbon atoms such as for example Purcelline oil (cetostearyl octanoate);
- synthetic esters and ethers such as isopropyl myristate, [or] octanoates, decanoates or ricinoleates of alcohols or polyalcohols;
- fatty alcohols such as actyl [sic; octyl] docecanol or oleyl alcohol;
- their mixtures.

It is optionally possible to add silicone oils to these oils such as volatile or nonlinear or cyclic polymethylsiloxanes that are liquid or pasty at room temperature; the linear or branched hydrocarbons of synthetic or inorganic origin such as paraffin oils that may or may not be

volatile and their derivatives, Vaseline, polydecenes, [or] hydrogenated polyisobutene such as parleam.

These oils may be present in the compositions according to the invention in proportions that can range up to 90% by weight, by comparison with the total weight of the composition, preferably ranging from 5 to 85%.

The compositions according to the invention may also include as solvent such as, for example, ethanol up to 10% by weight by comparison with the total weight of the composition.

Of course, the person skilled in the field will choose these oils and/or solvents as well as their proportions so that they do not harm the stability of the fluid compositions of the invention.

The composition according to the invention may include in addition a particular phase that may include pigments and /or pearlescent agents and/or fillers usually used in cosmetic compositions. For pigments it is necessary to include white or colored particles, inorganic or organic that are insoluble in the medium, designed to color the composition and/or make it opaque. For fillers, it is necessary to include colorless or white particles, inorganic or synthetic, lamellar or nonlamellar, designed to give body or rigidity to the composition and/or smoothness, matting and uniformity to the makeup. For pearlescent agents, it is necessary to include iridescent agents that reflect light.

Pigments may be present at a ratio of 0-20% by weight by comparison with the total weight of the composition, and preferably at the ratio of 2-15%. They may be white or colored, inorganic and/or organic, of usual size or nanometric. Among inorganic pigments and nanopigments the dioxides of titanium, zirconium or cerium may be mentioned as well as the oxides of zinc, iron or chromium, nanotitanium, [or] ferric blue. Among organic pigments, carbon black, may be mentioned and the lakes currently used to confer on the lips and skin a makeup effect, which are salts of calcium, barium, aluminum or zirconium, [or] acid dyes such as the halo acids, azoic or anthraquinone dyes.

The pearlescent agents may be present in the composition at the ratio of 0-20% by weight, preferably at a high level on the order of 2-15% by weight. Among the conceivable pearlescent agents, natural pearl, mica covered with titanium oxide, iron oxide, natural pigment or bismuth oxychloride as well as colored titanium mica may be mentioned.

The fillers, which may be present in the composition at the ratio of 0-20% by weight, by comparison with the total weight of the composition, preferably 2-10%, may be inorganic or synthetic, lamellar or nonlamellar. The following may be mentioned: talc, mica, silica, kaolin, powders of Nylon and polyethylene, Teflon, starch, boron nitride, microspheres such as Expancel (Nobel Industrie) microsporges such as polytrap (Dow Corning) and silicone resin microbeads (Tospearls from Toshiba, for example):

The composition according to the invention may include in addition any additive usually used in the field concerned, such as liposoluble dyes, coloring agents of the skin, antioxidants, essential oils, preservatives, neutralizing agents, surfactants, waxes, polymers compatible with the silicone medium, liposoluble polymers especially hydrocarbons such as the polyalkylenes, cosmetic or dermatological active ingredients such as for example emollients, moisturizing agents, vitamins, antiwrinkle active ingredients, essential fatty acids, [and] lipophilic sunscreens. These additives may be present in the composition at the ratio of 0 to 20% of the total weight of the composition and better at 0 to 10%.

Of course, the person skilled in the field will see to choosing the optional complementary additives and/or their amount in such a way that the advantageous properties of the composition according to the invention are not, or substantially not, altered by the conceived addition.

The composition of the invention may be presented in the form of a colored makeup product for the skin, in particular the body, of a makeup foundation, blush, blusher, or eyeshadow or makeup for the lips such as lipstick.

It may even be presented in the form of a dermatological composition or composition for care of the skin or even in the form of a composition for protection from the sun. It may then be presented in the form of a colorless product, optionally containing cosmetic or dermatological active ingredients. It may also be used as health care base for the skin or lips (balms for the lips protecting the lips from the cold and/or sun and/or wind).

Of course the composition of the invention must be cosmetically and dermatologically acceptable, namely nontoxic and capable of being applied on the skin or mucous membranes (lips, interior of the eyelids) of human beings.

The composition according to the invention may be manufactured by known procedures generally used in the cosmetic or dermatological field.

The invention even has for a goal a cosmetic procedure for makeup or care of the skin in particular the body, or mucous membranes (lips, interior of the lower eyelids) of human beings, including application of the composition such as defined above on the skin, the body or mucous membranes.

The invention also has for a goal the use of a polydimethylsiloxane derivative such as defined above in an anhydrous composition containing at least one partially crosslinked elastomeric solid organopolysiloxane to obtain a stable composition with a dynamic viscosity at most equal to 100×10^{-1} Pa·sec measured at a temperature of approximately 25°C and with a shear rate of 200 sec^{-1} .

The invention further has for a goal the use of a polydimethylsiloxane derivative such as defined above in an anhydrous stable composition containing at least one partially crosslinked

elastomeric solid organopolysiloxane and with a dynamic viscosity, measured at a temperature of approximately 25°C and with a shear rate of 200 sec^{-1} , of at least $100 \times 10^{-1} \text{ Pa}\cdot\text{sec}$.

The invention is illustrated in more detail in the following examples. The percentages are given by weight, by comparison with the total weight of the composition.

Example 1: (invention)

Fluid makeup foundation:

15% hydroxylated polydimethylsiloxane with molecular weight 1,770,000 in cyclopentamethicone sold under the trade name "DC 9071" by Dow Corning	40%
cyclopentadimethicone	35%
pigments	- 8%
ethanol	5%
crosslinked organosiloxane sold under the trade name "KSG 6" by Shin Etsu	10%

This composition was prepared by simple mixing of the various components.

It has a dynamic viscosity equal to $53 \times 10^{-1} \text{ Pa}\cdot\text{sec}$. It may be packaged in a pump bottle.

This composition also has excellent stability, even after having been stored 2 months at 45°C. It spreads easily on the skin and is smooth upon application.

Example 2:

The applicant has achieved the following two compositions A and B:

Composition A: (invention)

polydimethylsiloxane with viscosity $300 \times 10^{-6} \text{ m}^2/\text{sec}$ sold under the trade name "DC Fluid 200-350" by Dow Corning	90%
crosslinked organosiloxane sold under the trade name "KSG 6" by Shin Etsu	10%

Composition B: (comparative)

polydimethylsiloxane with viscosity $100 \times 10^{-6} \text{ m}^2/\text{sec}$ sold under the trade name "DC Fluid 200-100" by Dow Corning	90%
crosslinked organosiloxane sold under the trade name "KSG 6" by Shin Etsu	10%

These two compositions were obtained by simple mixing of the components.

Composition A has a dynamic viscosity of 42×10^{-1} Pa·sec. It spreads easily on the skin and is smooth upon application. It is homogeneous and stable even after several weeks.

Composition B, which consists of a polydimethylsiloxane that does not conform to the invention, changes phase immediately after obtaining the mixture. It produces sediment; aggregates of particles are formed at the bottom of the container.

Example 3: (invention)

Flash-tinted fluid

polydimethylsiloxane with viscosity

300×10^{-6} m²/sec sold under the trade name

“DC Fluid 200-350” by Dow Corning

- 88.85%

crosslinked organosiloxane sold under

the trade name “KSG 6” by Shin Etsu

10%

iron oxides

0.5%

parleam oil

0.5%

polyhydrostearic acid stearate sold under

the trade name “Solsperse 2100” by the Zeneca company

0.15%

This composition was obtained by simple mixing of the various components. It has a dynamic viscosity of 42×10^{-1} Pa·sec.

This composition also has excellent stability even after having been stored for 2 months at 45°C. It spreads easily on the skin, is smooth upon application and is particularly adapted to makeup for the entire body.

Claims

1. Anhydrous composition characterized in that it consists of at least one partially crosslinked elastomeric solid organopolysiloxane and at least one polydimethylsiloxane derivative with kinematic viscosity measured at the temperature of approximately 25°C at least equal to 300×10^{-6} m²/sec, this composition having a dynamic viscosity at most equal to 100×10^{-1} Pa·sec measured at a temperature of approximately 25°C and with a shear rate of 200 sec⁻¹.

2. Composition according to Claim 1 characterized by the fact that the polydimethylsiloxane derivative has a kinematic viscosity measured at a temperature of approximately 25°C at least equal to 1000×10^{-6} m²/sec.

3. Composition according to Claim 1-2 characterized by the fact that the polydimethylsiloxane derivative has a kinematic viscosity measured at a temperature of approximately 25°C at least equal to $100,000 \times 10^{-6} \text{ m}^2/\text{sec}$.

4. Composition according to any one of Claims 1-3 characterized by the fact that the polydimethylsiloxane derivative is an unsubstituted polydimethylsiloxane in which the degree of polymerization is higher than or equal to 250 and the molecular weight is greater than or equal to 18,500.

5. Composition according to any one of Claims 1-3 characterized by the fact that the polydimethylsiloxane derivative is chosen from the polydimethylsiloxane derivatives substituted with one or several hydroxyl groups and/or one or several phenyl groups.

6. Composition according to Claim 5 characterized by the fact that the polydimethylsiloxane derivative is an α - ω hydroxylated polydimethylsiloxane with molecular weight of 1,770,000.

7. Composition according to any one of the preceding claims characterized by the fact that the polydimethylsiloxane derivative(s) is (are) present as active material at a concentration ranging from 1 to 99.5% by weight by comparison with the total weight of the composition and preferably from 5% to 90% and even more preferably from 7% to 80%.

8. Composition according to any one of the preceding claims characterized by the fact that the elastomeric organopolysiloxane is obtained by addition and crosslinking reaction in the presence of a platinum-type catalyst from at least:

- (a) one organopolysiloxane with at least two C_1 - C_6 alkenyl groups per molecule; and
- (b) one organopolysiloxane with at least two hydrogen atoms bonded to one atom of silicon per molecule.

9. Composition according to any one of the preceding claims characterized by the fact that the elastomeric organopolysiloxane is chosen from:

- i) organopolysiloxanes consisting of R_2SiO and $\text{RSiO}_{1.5}$ groups and possibly $\text{R}_3\text{SiO}_{0.5}$ and/or SiO_2 groups in which the R radicals independently of each other represent hydrogen, an alkyl such as methyl, ethyl or propyl, an aryl such as phenyl or tolyl, an unsaturated aliphatic group such as vinyl, the weight ratio of the R_2SiO groups to the $\text{RSiO}_{1.5}$ groups ranging from 1/1 to 30/1.
- ii) organopolysiloxanes that are insoluble and swellable in a silicone oil, obtained by addition of an organohydrogenopolysiloxane (1) and an organopolysiloxane (2) with unsaturated aliphatic groups such that the quantity of hydrogen or unsaturated aliphatic groups in (1) and (2), respectively, are between 1 and 20 mol% when the organopolysiloxane is acyclic and between 1 and 50 mol % when the organopolysiloxane is cyclic.

10. Composition according to any one of the preceding claims characterized by the fact that the organopolysiloxane is present as active material at a concentration ranging from 0.1 to 80% by weight by comparison with the total weight of the composition and preferably from 0.5 to 20% and even more preferably, from 2% to 15%.

11. Composition according to any one of the preceding claims characterized by the fact that in addition it containing a particular phase that can contain pigments and/or pearlescent agents and /or fillers.

12. Composition according to any one of the preceding claims characterized by the fact that it is stable.

13. Composition according to any one of the preceding claims characterized by the fact that it is cosmetic.

14. Composition according to any one of the preceding claims characterized by the fact that it is presented in the form of a makeup product for the skin, in particular the body, of a makeup foundation, blush, blusher, or eyeshadow or makeup for the lips such as lipstick.

15. Cosmetic procedure for makeup or care of the skin, the body or mucous membranes of human beings, consisting of application of the composition on the skin, the body or mucous membranes according to any one of the preceding claims.

16. Use of a polydimethylsiloxane derivative such as defined in any one of Claims 1-6 in an anhydrous composition containing at least one partially crosslinked elastomeric solid organopolysiloxane to obtain a stable composition with a dynamic viscosity at most equal to 100×10^{-1} Pa·sec. measured at a temperature of approximately 25°C and with a shear rate of 200 sec^{-1} .

17. Use of a polydimethylsiloxane derivative such as defined in any one of Claims 1-6 in a stable anhydrous composition containing at least one partially crosslinked elastomeric solid organopolysiloxane and with a dynamic viscosity at most equal to 100×10^{-1} Pa·sec measured at a temperature of approximately 25°C and at a shear rate of 200 sec^{-1} .

FRENCH REPUBLIC
National Institute
of Industrial Property

Application Number
2779440
National registration
numbers:
FA 560667
FR 9807105

SEARCH REPORT
established on the basis of the most
recent claims filed before the start
of the search

DOCUMENTS CONSIDERED TO BE RELEVANT		Claims concerned in the examined document	
Category	Citation of document with indication where appropriate, of relevant passages		
X	EP 0 790 055 A (OREAL) August 20, 1997 * page 3, line 39 - line 42 * * page 3, line 51 - line 53 *	1-17	TECHNICAL FIELDS SEARCHED (Int. Cl. ⁶) A61K C08L
X	EP 0 823 249 A (OREAL) February 11, 1998 * column 4, line 24 – line 28 * * column 6, line 33; claim 2 *	1-5,7-17	
X	EP 0 426 520 A (OREAL) May 8, 1991 * page 4, line 19 – line 20 * * page 14, line 51 – page 15, line 19 *	1-13	
E	EP 0 850 644 A (OREAL) July 1, 1998 * page 3, line 37 – line 39; claim 1 *	1-5,7-17	
A	XP002094572 Database PAJ/JPO & JP3127721 (Kobayashi Kose) May 30, 1991 *Abstract*	1	
Date of completion of the search February 24, 1999		Examiner Lentz, J	
CATEGORY OF CITED DOCUMENTS			
X: Particularly relevant if taken alone.		T: Theory or principle underlying the invention.	
Y: Particularly relevant if combined with another document of the same category.		E: Earlier patent document, but published on, or after the filing date.	
A: Technological background.		D: Document cited in the application.	
O: Non-written disclosure.		L: Document cited for other reasons.	
P: Intermediate document.		
		&: Member of the same patent family, corresponding document.	